MARMARA UNIVERSITY
FACULTY OF ENGINEERING
ENVIRONMENTAL ENGINEERING DEPARTMENT

ENVE 4197/4198 ENGINEERING PROJECT
PROPOSAL FORM
FALL 2019-2020

Instructor : Esra Erdim

Project Title: Clay supported nano-scale zero valent iron system for recovery of phosphate from synthetic wastewater

Proposal No: Esra Erdim_1

Number of Students : 2-3

Requirements (from students) :
Students with strong interests in learning and conducting experiments in the lab, self-motivated and willing to work long hours as needed by the experiments.

Students will be expected to meet with the advisor on regular basis to discuss the progress of the experiments and results.

Scope of the Project :

(1) Synthesize and characterize clay impregnated zero-valent iron nanoparticles (Clay/nZVI)
(2) Investigate the influence of different operational parameters on the kinetics of phosphate recovery by Clay/nZVI particles

Hardware/Software/Lab/Equipment Requirements :

Spectrophotometer, Nanoparticle size and zeta potential analyzer, magnetic stirrer, orbital shaker, pH meter, glove box, chemical hood

Development Plan :

- Literature review
- Synthesis of Clay/nZVI particles
- Removal experiments with lab synthesized Clay/zero valent iron nano particles

A written report is required. The report should be prepared according to http://dosya.marmara.edu.tr/fbe/tez_formlari/FBE_Tez_Yaz_m_K_lavuzu.pdf.

Also, a poster will be presented at the end of the semester and the **Environmental Engineering Department staff** will grade your work by evaluating your poster.